

A large teal graphic on the left side of the page, consisting of a triangle pointing upwards and a vertical rectangle to its left, with a diagonal cutout in the upper right corner of the rectangle.

2022 Post-Closure Groundwater Monitoring Report

Scougal Rubber Corporation
Facility/Site No. 93637295
VCP No. NW1707

February 2023

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Mott MacDonald
2377 Eastlake Avenue East
Seattle
WA 98102
United States of America

mottmac.com

Scougal Rubber
Corporation
6239 Corson Avenue South
Seattle, WA

2022 Post-Closure Groundwater Monitoring Report

Scougal Rubber Corporation
Facility/Site No. 93637295
VCP No. NW1707

February 2023

Document reference:

Information class: Standard

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Attachment

2022 Analytical Laboratory Reports from Groundwater Samples

1 Introduction

This report is the first annual groundwater monitoring report for the Site known as Scougal Rubber Corp (Scougal). Scougal is former Voluntary Cleanup Site NW1707 and Washington State Department of Ecology (Ecology) Facility Site #93637295. Scougal's address is 6239 Corson Ave S, Seattle, WA 98108.

As of 2020, Scougal completed soil and groundwater investigation and remediation to Model Toxics Control Act (MTCA) standards, except localized areas of residual groundwater contamination. This is the first annual post-closure groundwater monitoring report that began after receipt of Ecology's No Further Action with Environmental Covenant.

Starting in 2022, groundwater monitoring occurs every six months for two years (2022 and 2023). After that time, if concentrations do not increase by more than 100 percent, the frequency of groundwater monitoring will decrease to once per year until five years after receipt of the No Further Action with Environmental Covenant from Ecology (2024, 2025, and 2026). The monitoring occurs in accordance with the No Further Action Letter and its attachment, Scougal Rubber Corp, Post-Closure Groundwater Monitoring Plan (Pacific Groundwater Group [PGG] February 2021).

2 2022 Groundwater Monitoring

2.1 Work Performed

The locations of post-closure groundwater monitoring wells are shown on Figure 1, as well as the areas where groundwater concentrations exceed MTCA Method A cleanup levels. As shown on Figure 1, the following wells are sampled: MW-12, MW-13, MW-14, and MW-17.

On March 31, 2022 and November 15, 2022, groundwater monitoring was performed at the Scougal Site. The sampling followed procedures set forth in the Post-Closure Groundwater Monitoring Plan (PGG 2021) with the following exception. During the March sampling event, our samplers could not obtain access to MW-17 as ecology blocks and other equipment were stored in the area. Therefore, the March event has a deviation from the Monitoring Plan.

Samples were collected according to standard low flow methods described in the Monitoring Plan using care to collect volatile organic compound analyses and maintain sample quality. Samples were stored on ice and chain of custody was maintained until receipt by Analytical Resources, Inc., a Washington-certified laboratory.

2.2 Analytical Results

Samples were analyzed by the laboratory using U.S. Environmental Protection Agency Method 8260 to report concentrations of the following analytes for comparison to MTCA Method A (or Method B for 1,2-Dichloroethylene (DCE)) cleanup levels (micrograms per liter or ug/L) listed:

- Trichloroethylene 5 ug/L
- 1,2-Dichloroethylene 72 ug/L
- Vinyl Chloride 0.2 ug/L

Table 1 provides the analytical results from both 2022 sampling events. As shown and as found in previous sampling, the most downgradient well, MW-12, does not exceed the TCE Method A cleanup level. Also as expected, DCE does not exceed the Method B cleanup level in any wells.

The TCE exceeds the Method A cleanup level for both sampling events in wells MW-14 and MW-17 and only for the March 2022 event in well MW-13. Vinyl chloride exceeds the Method A cleanup level for both sampling events in all wells except MW-17 collected in November 2022.

3 2023 Monitoring and Reporting Planned

Groundwater monitoring will proceed in 2023 per the Post-Closure Groundwater Monitoring Plan (PGG 2021) with two rounds of sampling approximately six months apart.

In the 2024 report, we will assess trends in groundwater monitoring using data from before the No Further Action to provide a sufficient dataset. If concentrations have not increased by more than 100 percent, the frequency of groundwater monitoring will decrease to once per year until five years after receipt of the No Further Action with Environmental Covenant from Ecology (2024, 2025, and 2026).

**Table 1. Analytical Results for 2022 Groundwater Samples from Post-Closure Monitoring Wells
Scougal Rubber Corporation, Seattle, WA**

	Well ID	Trichloroethene (TCE)	Vinyl Chloride	cis-1,2-Dichloroethene (1,2-DCE)
Cleanup Levels		5 ^a ug/L	0.2 ^a ug/L	72 ^b ug/L
March 2022	MW-12	0.11J	0.79	1.15
March 2022	MW-13	30.7	0.87	2.78
March 2022	MW-14	24.8	0.76	1.02
November 2022	MW-12	0.20U	0.79	0.89
November 2022	MW-13	4.76	6.84	10.9
November 2022	MW-14	24.1	1.95	1.5
November 2022	MW-17	16.4	0.20U	0.34

^a MTCA Method A cleanup levels are provided for comparison purposes only.

^b MTCA Method B cleanup levels are provided for comparison purposes only.

U indicates non-detect.

J qualifier signifies the estimated concentration value was detection below the reporting limit.

K:\JANET\JK0605-ScougalRubber\GIS\Scougal_letter_MonitoringWells.mxd 2/10/2021



Monitoring Wells



0 Feet 50



2019 Aerial from King County

Figure 1
Groundwater Monitoring
Well Locations
Scougal Rubber Site





Analytical Resources, LLC
Analytical Chemists and Consultants

05 May 2022

Glen Wallace
Pacific Groundwater Group
2377 Eastlake Ave. E. Suite 200
Seattle, WA 98102

RE: Scougal Rubber (Scougal Rubber)

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)
22D0035

Associated SDG ID(s)
N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclosed Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, LLC

Kelly Bottem, Client Services Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Chain of Custody Record & Laboratory Analysis Request



Analytical Resources, LLC
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)

ARI Assigned Number: 22D0035	Turn-around Requested: STD	Page: 1 of 1
ARI Client Company: PLGS/MOTT MACDONALD	Phone: 773-675-0045	Date: 3/31/22
Client Contact: GLEN WALLACE	No. of Coolers:	Ice Present? 5.2

Client Project Name: SLOUGAL RUBBER	Analysis Requested						Notes/Comments
Client Project #: 518300048-001	Samplers: SHELDON PIERCE	8260 C/VOC	DISSOLVED	Mn FF			

Sample ID	Date	Time	Matrix	No. Containers	8260 C/VOC	DISSOLVED	Mn FF										
MW-12	3/31	1350	WATER	4	X	X											
MW-13		1455		4													
MW-14	1605	1605		4													
MW-14-MSMO	1610	1610		4													

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: SHELDON PIERCE	Printed Name: Dimitri Lamradze	Printed Name:	Printed Name:
	Company: MOTT MACDONALD	Company: ARI	Company:	Company:
	Date & Time: 3/31/22 1649	Date & Time: 3/31/22 1849	Date & Time:	Date & Time:

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.



Pacific Groundwater Group
2377 Eastlake Ave. E. Suite 200
Seattle WA, 98102

Project: Scougal Rubber
Project Number: Scougal Rubber
Project Manager: Glen Wallace

Reported:
05-May-2022 11:50

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-12	22D0035-01	Water	31-Mar-2022 13:50	31-Mar-2022 16:49
MW-13	22D0035-02	Water	31-Mar-2022 14:55	31-Mar-2022 16:49
MW-14	22D0035-03	Water	31-Mar-2022 16:05	31-Mar-2022 16:49



Pacific Groundwater Group
2377 Eastlake Ave. E. Suite 200
Seattle WA, 98102

Project: Scougal Rubber
Project Number: Scougal Rubber
Project Manager: Glen Wallace

Reported:
05-May-2022 11:50

Work Order Case Narrative

Dissolved Metals - EPA Method 200.8

The sample(s) were digested and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

The matrix spike (MS) percent recoveries and the duplicate (DUP) relative percent difference (RPD) were within advisory control limits.

Volatiles - EPA Method SW8260D

The sample(s) were analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The blank spike and blank spike duplicate (BS/LCS and BSD/LCSD) spike recoveries and relative percent difference (RPD) were within control limits.

The matrix spike/matrix spike duplicate (MS/MSD) spike recoveries and relative percent difference (RPD) were within advisory control limits with the exception of analytes flagged on the associated forms.



WORK ORDER

22D0035

Samples will be discarded 90 days after submission of a final report unless other instructions are received.

Client: Pacific Groundwater Group

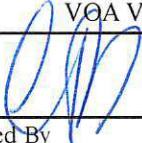
Project Manager: Kelly Bottem

Project: Scougal Rubber

Project Number: Scougal Rubber

Preservation Confirmation

Container ID	Container Type	pH
22D0035-01 A	HDPE NM, 500 mL, 1:1 HNO3	L2 PASS
22D0035-01 B	VOA Vial, Clear, 40 mL, HCL	
22D0035-01 C	VOA Vial, Clear, 40 mL, HCL	
22D0035-01 D	VOA Vial, Clear, 40 mL, HCL	
22D0035-02 A	HDPE NM, 500 mL, 1:1 HNO3	L2 PASS
22D0035-02 B	VOA Vial, Clear, 40 mL, HCL	
22D0035-02 C	VOA Vial, Clear, 40 mL, HCL	
22D0035-02 D	VOA Vial, Clear, 40 mL, HCL	
22D0035-03 A	HDPE NM, 500 mL, 1:1 HNO3	L2 PASS
22D0035-03 B	HDPE NM, 500 mL, 1:1 HNO3	L2 PASS
22D0035-03 C	VOA Vial, Clear, 40 mL, HCL	
22D0035-03 D	VOA Vial, Clear, 40 mL, HCL	
22D0035-03 E	VOA Vial, Clear, 40 mL, HCL	
22D0035-03 F	VOA Vial, Clear, 40 mL, HCL	
22D0035-03 G	VOA Vial, Clear, 40 mL, HCL	
22D0035-03 H	VOA Vial, Clear, 40 mL, HCL	

Preservation Confirmed By 

Date 4/2/22



Cooler Receipt Form

ARI Client: PLG/Moff

Project Name: Scowgal Rubber

COC No(s): _____ (NA)

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 22D0035

Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler? YES NO

Were custody papers included with the cooler? YES NO

Were custody papers properly filled out (ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1649 52

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: 2565

Cooler Accepted by: DL Date: 3/31/22 Time: 1649

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO

What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? NA YES NO

How were bottles sealed in plastic bags? Individually Grouped Not

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)... NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? YES NO

Date VOC Trip Blank was made at ARI NA

Were the sample(s) split by ARI? NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: EB Date: 4/2/22 Time: 10:59 Labels checked by: _____

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

MW-14-MSMD labels on bottles say time was 16:05 COC says 16:10 logged in element as ~~16:05~~

By: EB Date: 4/2/22 made EB 4/2/22 mw-14B mw-14MSMD one sample



Pacific Groundwater Group
2377 Eastlake Ave. E. Suite 200
Seattle WA, 98102

Project: Scougal Rubber
Project Number: Scougal Rubber
Project Manager: Glen Wallace

Reported:
05-May-2022 11:50

MW-12
22D0035-01 (Water)

Volatile Organic Compounds

Method: EPA 8260D

Sampled: 03/31/2022 13:50

Instrument: NT3 Analyst: PKC

Analyzed: 04/11/2022 19:16

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: EPA 5030C (Purge and Trap)

Extract ID: 22D0035-01 C

Preparation Batch: BKD0274

Sample Size: 10 mL

Prepared: 04/11/2022

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Vinyl Chloride	75-01-4	1	0.08	0.20	0.79	ug/L	
1,1-Dichloroethene	75-35-4	1	0.08	0.20	ND	ug/L	U
trans-1,2-Dichloroethene	156-60-5	1	0.07	0.20	0.09	ug/L	J
cis-1,2-Dichloroethene	156-59-2	1	0.08	0.20	1.15	ug/L	
Trichloroethene	79-01-6	1	0.07	0.20	0.11	ug/L	J
Tetrachloroethene	127-18-4	1	0.09	0.20	ND	ug/L	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>					80-129 %	89.0	%
<i>Surrogate: Toluene-d8</i>					80-120 %	101	%
<i>Surrogate: 4-Bromofluorobenzene</i>					80-120 %	102	%
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>					80-120 %	97.7	%



Pacific Groundwater Group 2377 Eastlake Ave. E. Suite 200 Seattle WA, 98102	Project: Scougal Rubber Project Number: Scougal Rubber Project Manager: Glen Wallace	Reported: 05-May-2022 11:50
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MW-12
22D0035-01 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 Sampled: 03/31/2022 13:50
Instrument: ICPMS2 Analyst: MCB Analyzed: 05/03/2022 21:20

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix Extract ID: 22D0035-01 A 01
Preparation Batch: BKD0410 Sample Size: 25 mL
Prepared: 04/14/2022 Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection	Reporting	Result	Units	Notes
			Limit	Limit			
Manganese, Dissolved	7439-96-5	5	0.710	2.50	318	ug/L	D



Pacific Groundwater Group
2377 Eastlake Ave. E. Suite 200
Seattle WA, 98102

Project: Scougal Rubber
Project Number: Scougal Rubber
Project Manager: Glen Wallace

Reported:
05-May-2022 11:50

MW-13
22D0035-02 (Water)

Volatile Organic Compounds

Method: EPA 8260D

Sampled: 03/31/2022 14:55

Instrument: NT3 Analyst: PKC

Analyzed: 04/11/2022 19:41

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: EPA 5030C (Purge and Trap)

Extract ID: 22D0035-02 C

Preparation Batch: BKD0274

Sample Size: 10 mL

Prepared: 04/11/2022

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Vinyl Chloride	75-01-4	1	0.08	0.20	0.87	ug/L	
1,1-Dichloroethene	75-35-4	1	0.08	0.20	ND	ug/L	U
trans-1,2-Dichloroethene	156-60-5	1	0.07	0.20	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.08	0.20	2.78	ug/L	
Trichloroethene	79-01-6	1	0.07	0.20	30.7	ug/L	
Tetrachloroethene	127-18-4	1	0.09	0.20	0.66	ug/L	
<i>Surrogate: 1,2-Dichloroethane-d4</i>					80-129 %	82.8	%
<i>Surrogate: Toluene-d8</i>					80-120 %	98.6	%
<i>Surrogate: 4-Bromofluorobenzene</i>					80-120 %	101	%
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>					80-120 %	101	%



Pacific Groundwater Group 2377 Eastlake Ave. E. Suite 200 Seattle WA, 98102	Project: Scougal Rubber Project Number: Scougal Rubber Project Manager: Glen Wallace	Reported: 05-May-2022 11:50
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MW-13
22D0035-02 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 Sampled: 03/31/2022 14:55
Instrument: ICPMS2 Analyst: MCB Analyzed: 05/03/2022 20:42

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix Extract ID: 22D0035-02 A 01
Preparation Batch: BKD0410 Sample Size: 25 mL
Prepared: 04/14/2022 Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection	Reporting	Result	Units	Notes
			Limit	Limit			
Manganese, Dissolved	7439-96-5	10	1.42	5.00	690	ug/L	D



Pacific Groundwater Group
2377 Eastlake Ave. E. Suite 200
Seattle WA, 98102

Project: Scougal Rubber
Project Number: Scougal Rubber
Project Manager: Glen Wallace

Reported:
05-May-2022 11:50

MW-14
22D0035-03 (Water)

Volatile Organic Compounds

Method: EPA 8260D

Sampled: 03/31/2022 16:05

Instrument: NT3 Analyst: PKC

Analyzed: 04/11/2022 20:07

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap)
Preparation Batch: BKD0274
Prepared: 04/11/2022

Sample Size: 10 mL
Final Volume: 10 mL

Extract ID: 22D0035-03 E

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Vinyl Chloride	75-01-4	1	0.08	0.20	0.76	ug/L	
1,1-Dichloroethene	75-35-4	1	0.08	0.20	ND	ug/L	U
trans-1,2-Dichloroethene	156-60-5	1	0.07	0.20	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.08	0.20	1.02	ug/L	
Trichloroethene	79-01-6	1	0.07	0.20	24.8	ug/L	
Tetrachloroethene	127-18-4	1	0.09	0.20	1.40	ug/L	
<i>Surrogate: 1,2-Dichloroethane-d4</i>					80-129 %	88.5	%
<i>Surrogate: Toluene-d8</i>					80-120 %	99.4	%
<i>Surrogate: 4-Bromofluorobenzene</i>					80-120 %	103	%
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>					80-120 %	103	%



Pacific Groundwater Group 2377 Eastlake Ave. E. Suite 200 Seattle WA, 98102	Project: Scougal Rubber Project Number: Scougal Rubber Project Manager: Glen Wallace	Reported: 05-May-2022 11:50
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MW-14
22D0035-03 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 200.8 Sampled: 03/31/2022 16:05
Instrument: ICPMS2 Analyst: MCB Analyzed: 04/19/2022 05:46

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix Extract ID: 22D0035-03 B 01
Preparation Batch: BKD0410 Sample Size: 25 mL
Prepared: 04/14/2022 Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection	Reporting	Result	Units	Notes
			Limit	Limit			
Manganese, Dissolved	7439-96-5	1	0.142	0.500	34.7	ug/L	



Pacific Groundwater Group
2377 Eastlake Ave. E. Suite 200
Seattle WA, 98102

Project: Scougal Rubber
Project Number: Scougal Rubber
Project Manager: Glen Wallace

Reported:
05-May-2022 11:50

Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - Quality Control

Batch BKD0274 - EPA 5030C (Purge and Trap)

Instrument: NT3 Analyst: PKC

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BKD0274-BLK2)						Prepared: 11-Apr-2022 Analyzed: 11-Apr-2022 11:03					
Vinyl Chloride	ND	0.08	0.20	ug/L							U
1,1-Dichloroethene	ND	0.08	0.20	ug/L							U
trans-1,2-Dichloroethene	ND	0.07	0.20	ug/L							U
cis-1,2-Dichloroethene	ND	0.08	0.20	ug/L							U
Trichloroethene	ND	0.07	0.20	ug/L							U
Tetrachloroethene	ND	0.09	0.20	ug/L							U
<i>Surrogate: 1,2-Dichloroethane-d4</i>	4.83			ug/L	5.00		96.5	80-129			
<i>Surrogate: Toluene-d8</i>	4.99			ug/L	5.00		99.9	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	4.98			ug/L	5.00		99.6	80-120			
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	4.86			ug/L	5.00		97.2	80-120			
LCS (BKD0274-BS2)						Prepared: 11-Apr-2022 Analyzed: 11-Apr-2022 09:21					
Vinyl Chloride	10.2	0.08	0.20	ug/L	10.0		102	66-133			
1,1-Dichloroethene	10.7	0.08	0.20	ug/L	10.0		107	69-135			
trans-1,2-Dichloroethene	10.8	0.07	0.20	ug/L	10.0		108	78-128			
cis-1,2-Dichloroethene	10.8	0.08	0.20	ug/L	10.0		108	80-121			
Trichloroethene	11.3	0.07	0.20	ug/L	10.0		113	80-120			
Tetrachloroethene	11.1	0.09	0.20	ug/L	10.0		111	80-120			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	4.42			ug/L	5.00		88.5	80-129			
<i>Surrogate: Toluene-d8</i>	4.90			ug/L	5.00		98.1	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	5.26			ug/L	5.00		105	80-120			
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	5.06			ug/L	5.00		101	80-120			
LCS Dup (BKD0274-BSD2)						Prepared: 11-Apr-2022 Analyzed: 11-Apr-2022 10:12					
Vinyl Chloride	9.26	0.08	0.20	ug/L	10.0		92.6	66-133	9.43	30	
1,1-Dichloroethene	9.36	0.08	0.20	ug/L	10.0		93.6	69-135	12.90	30	
trans-1,2-Dichloroethene	9.81	0.07	0.20	ug/L	10.0		98.1	78-128	9.93	30	
cis-1,2-Dichloroethene	9.88	0.08	0.20	ug/L	10.0		98.8	80-121	9.32	30	
Trichloroethene	10.6	0.07	0.20	ug/L	10.0		106	80-120	7.08	30	
Tetrachloroethene	9.80	0.09	0.20	ug/L	10.0		98.0	80-120	12.50	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	4.39			ug/L	5.00		87.7	80-129			
<i>Surrogate: Toluene-d8</i>	5.08			ug/L	5.00		102	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	5.15			ug/L	5.00		103	80-120			
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	4.83			ug/L	5.00		96.6	80-120			



Pacific Groundwater Group
2377 Eastlake Ave. E. Suite 200
Seattle WA, 98102

Project: Scougal Rubber
Project Number: Scougal Rubber
Project Manager: Glen Wallace

Reported:
05-May-2022 11:50

Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - Quality Control

Batch BKD0274 - EPA 5030C (Purge and Trap)

Instrument: NT3 Analyst: PKC

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike (BKD0274-MS1)											
Source: 22D0035-03			Prepared: 11-Apr-2022			Analyzed: 11-Apr-2022 20:57					
Vinyl Chloride	10.2	0.08	0.20	ug/L	10.0	0.76	94.5	66-133			
1,1-Dichloroethene	9.62	0.08	0.20	ug/L	10.0	ND	96.2	69-135			
trans-1,2-Dichloroethene	10.0	0.07	0.20	ug/L	10.0	ND	100	78-128			
cis-1,2-Dichloroethene	11.0	0.08	0.20	ug/L	10.0	1.02	99.5	80-121			
Trichloroethene	31.7	0.07	0.20	ug/L	10.0	24.8	68.8	80-120			*
Tetrachloroethene	11.2	0.09	0.20	ug/L	10.0	1.40	98.1	80-120			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	4.41			ug/L	5.00	4.43	88.1	80-129			
<i>Surrogate: Toluene-d8</i>	5.05			ug/L	5.00	4.97	101	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	5.22			ug/L	5.00	5.15	104	80-120			
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	4.99			ug/L	5.00	5.16	99.9	80-120			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Matrix Spike Dup (BKD0274-MSD1)											
Source: 22D0035-03			Prepared: 11-Apr-2022			Analyzed: 11-Apr-2022 21:22					
Vinyl Chloride	10.0	0.08	0.20	ug/L	10.0	0.76	92.9	66-133	1.53	30	
1,1-Dichloroethene	9.27	0.08	0.20	ug/L	10.0	ND	92.7	69-135	3.71	30	
trans-1,2-Dichloroethene	9.67	0.07	0.20	ug/L	10.0	ND	96.7	78-128	3.53	30	
cis-1,2-Dichloroethene	10.8	0.08	0.20	ug/L	10.0	1.02	98.3	80-121	1.11	30	
Trichloroethene	32.0	0.07	0.20	ug/L	10.0	24.8	72.1	80-120	1.03	30	*
Tetrachloroethene	10.8	0.09	0.20	ug/L	10.0	1.40	94.4	80-120	3.33	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	4.05			ug/L	5.00	4.43	81.1	80-129			
<i>Surrogate: Toluene-d8</i>	4.99			ug/L	5.00	4.97	99.8	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	5.11			ug/L	5.00	5.15	102	80-120			
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	4.91			ug/L	5.00	5.16	98.2	80-120			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.



Pacific Groundwater Group
2377 Eastlake Ave. E. Suite 200
Seattle WA, 98102

Project: Scougal Rubber
Project Number: Scougal Rubber
Project Manager: Glen Wallace

Reported:
05-May-2022 11:50

Analysis by: Analytical Resources, LLC

Metals and Metallic Compounds (dissolved) - Quality Control

Batch BKD0410 - REN EPA 600/4-79-020 4.1.4 HNO3 matrix

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BKD0410-BLK1)						Prepared: 14-Apr-2022 Analyzed: 18-Apr-2022 23:14						
Manganese, Dissolved	55	ND	0.142	0.500	ug/L							U
LCS (BKD0410-BS1)						Prepared: 14-Apr-2022 Analyzed: 18-Apr-2022 23:19						
Manganese, Dissolved	55	26.7	0.142	0.500	ug/L	25.0		107	80-120			
Duplicate (BKD0410-DUP1)						Source: 22D0035-03 Prepared: 14-Apr-2022 Analyzed: 19-Apr-2022 05:51						
Manganese, Dissolved	55	34.2	0.142	0.500	ug/L		34.7			1.55	20	
Matrix Spike (BKD0410-MS1)						Source: 22D0035-03 Prepared: 14-Apr-2022 Analyzed: 19-Apr-2022 05:56						
Manganese, Dissolved	55	56.4	0.142	0.500	ug/L	25.0	34.7	86.5	75-125			
Recovery limits for target analytes in MS/MSD QC samples are advisory only.												
Matrix Spike Dup (BKD0410-MSD1)						Source: 22D0035-03 Prepared: 14-Apr-2022 Analyzed: 19-Apr-2022 06:02						
Manganese, Dissolved	55	56.4	0.142	0.500	ug/L	25.0	34.7	86.9	75-125	0.16	20	

Recovery limits for target analytes in MS/MSD QC samples are advisory only.



Pacific Groundwater Group
2377 Eastlake Ave. E. Suite 200
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Project: Scougal Rubber
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Reported:
05-May-2022 11:50

Certified Analyses included in this Report

Analyte	Certifications
EPA 200.8 in Water	
Manganese-55	NELAP,WADOE,WA-DW,DoD-ELAP
EPA 8260D in Water	
Chloromethane	DoD-ELAP,ADEC,NELAP,WADOE
Vinyl Chloride	DoD-ELAP,ADEC,NELAP,WADOE
Bromomethane	DoD-ELAP,ADEC,NELAP,WADOE
Chloroethane	DoD-ELAP,ADEC,NELAP,WADOE
Trichlorofluoromethane	DoD-ELAP,ADEC,NELAP,WADOE
Acrolein	DoD-ELAP,NELAP,WADOE
1,1,2-Trichloro-1,2,2-Trifluoroethane	DoD-ELAP,ADEC,NELAP,WADOE
Acetone	DoD-ELAP,ADEC,NELAP,WADOE
1,1-Dichloroethene	DoD-ELAP,ADEC,NELAP,WADOE
Iodomethane	DoD-ELAP,NELAP,WADOE
Methylene Chloride	DoD-ELAP,ADEC,NELAP,WADOE
Acrylonitrile	DoD-ELAP,NELAP,WADOE
Carbon Disulfide	DoD-ELAP,NELAP,WADOE
trans-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,WADOE
Vinyl Acetate	DoD-ELAP,NELAP,WADOE
1,1-Dichloroethane	DoD-ELAP,ADEC,NELAP,WADOE
2-Butanone	DoD-ELAP,NELAP,WADOE
2,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,WADOE
cis-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,WADOE
Chloroform	DoD-ELAP,ADEC,NELAP,WADOE
Bromochloromethane	DoD-ELAP,ADEC,NELAP,WADOE
1,1,1-Trichloroethane	DoD-ELAP,ADEC,NELAP,WADOE
1,1-Dichloropropene	DoD-ELAP,ADEC,NELAP,WADOE
Carbon tetrachloride	DoD-ELAP,ADEC,NELAP,WADOE
1,2-Dichloroethane	DoD-ELAP,ADEC,NELAP,WADOE
Benzene	DoD-ELAP,ADEC,NELAP,WADOE
Trichloroethene	DoD-ELAP,ADEC,NELAP,WADOE
1,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,WADOE
Bromodichloromethane	DoD-ELAP,ADEC,NELAP,WADOE
Dibromomethane	DoD-ELAP,ADEC,NELAP,WADOE
2-Chloroethyl vinyl ether	DoD-ELAP,ADEC,NELAP,WADOE
4-Methyl-2-Pentanone	DoD-ELAP,NELAP,WADOE
cis-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,WADOE



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Reported:
05-May-2022 11:50

Toluene	DoD-ELAP,ADEC,NELAP,WADOE
trans-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,WADOE
2-Hexanone	DoD-ELAP,NELAP,WADOE
1,1,2-Trichloroethane	DoD-ELAP,ADEC,NELAP,WADOE
1,3-Dichloropropane	DoD-ELAP,ADEC,NELAP,WADOE
Tetrachloroethene	DoD-ELAP,ADEC,NELAP,WADOE
Dibromochloromethane	DoD-ELAP,ADEC,NELAP,WADOE
1,2-Dibromoethane	DoD-ELAP,NELAP,WADOE
Chlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
Ethylbenzene	DoD-ELAP,ADEC,NELAP,WADOE
1,1,1,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,WADOE
m,p-Xylene	DoD-ELAP,ADEC,NELAP,WADOE
o-Xylene	DoD-ELAP,ADEC,NELAP,WADOE
Styrene	DoD-ELAP,NELAP,WADOE
Bromoform	DoD-ELAP,NELAP,WADOE
1,1,2,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,WADOE
1,2,3-Trichloropropane	DoD-ELAP,ADEC,NELAP,WADOE
trans-1,4-Dichloro 2-Butene	DoD-ELAP,ADEC,NELAP,WADOE
n-Propylbenzene	DoD-ELAP,NELAP,WADOE
Bromobenzene	DoD-ELAP,NELAP,WADOE
Isopropyl Benzene	DoD-ELAP,NELAP,WADOE
2-Chlorotoluene	DoD-ELAP,ADEC,NELAP,WADOE
4-Chlorotoluene	DoD-ELAP,ADEC,NELAP,WADOE
t-Butylbenzene	DoD-ELAP,NELAP,WADOE
1,3,5-Trimethylbenzene	DoD-ELAP,NELAP,WADOE
1,2,4-Trimethylbenzene	DoD-ELAP,NELAP,WADOE
s-Butylbenzene	DoD-ELAP,NELAP,WADOE
4-Isopropyl Toluene	DoD-ELAP,NELAP,WADOE
1,3-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
1,4-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
n-Butylbenzene	DoD-ELAP,NELAP,WADOE
1,2-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
1,2-Dibromo-3-chloropropane	DoD-ELAP,ADEC,NELAP,WADOE
1,2,4-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
Hexachloro-1,3-Butadiene	DoD-ELAP,ADEC,NELAP,WADOE
Naphthalene	DoD-ELAP,ADEC,NELAP,WADOE
1,2,3-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
Dichlorodifluoromethane	DoD-ELAP,ADEC,NELAP,WADOE
Methyl tert-butyl Ether	DoD-ELAP,ADEC,NELAP,WADOE



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Project: Scougal Rubber
Project Number: Scougal Rubber
Project Manager: Glen Wallace

Reported:
05-May-2022 11:50

n-Hexane WADOE
2-Pentanone WADOE

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	03/28/2023
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2022
WADOE	WA Dept of Ecology	C558	06/30/2022
WA-DW	Ecology - Drinking Water	C558	06/30/2022



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Project: Scougal Rubber
Project Number: Scougal Rubber
Project Manager: Glen Wallace

Reported:
05-May-2022 11:50

Notes and Definitions

- * Flagged value is not within established control limits.
- D The reported value is from a dilution
- H Hold time violation - Hold time was exceeded.
- J Estimated concentration value detected below the reporting limit.
- U This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- [2C] Indicates this result was quantified on the second column on a dual column analysis.



Analytical Resources, LLC
Analytical Chemists and Consultants

21 November 2022

Travis Klaas
Mott MacDonald
1601 5th Avenue Suite 800
Seattle, WA 98101

RE: Scougal Rubber (518300048-001)

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)
22K0302

Associated SDG ID(s)
N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, LLC

Kelly Bottem, Client Services Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Chain of Custody Record & Laboratory Analysis Request



Analytical Resources, LLC
 Analytical Chemists and Consultants
 4611 South 134th Place, Suite 100
 Tukwila, WA 98168
 206-695-6200 206-695-6201 (fax)

ARI Assigned Number: 22K0302	Turn-around Requested: STD 518300048-001	Page: _____ of _____
ARI Client Company: Mott MacDonald	Phone: 206 329 7587	Date: _____ Ice Present? _____
Client Contact: Travis Klaus	No. of Coolers: 1	Cooler Temps: 4.8

Client Project Name:
Siougal Rubber

Client Project #:
518300048-001

Samplers:
AP & TR

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested							Notes/Comments
mw-12 ①	11/15/22	12:30	GW	6								* 8260 Just analyze TCE, 1,2-DCE Vinyl Chloride
mw-13	↓	12:48	GW	3								
mw-14 *	↓	14:10	GW	3								
mw-17	↓	14:15	GW	3								
Trip Blanks												

Comments/Special Instructions ① collected dup set for msmsd 8260 - TCE - 1,2-DCE - VC	Relinquished by: (Signature) <i>[Signature]</i>	Received by: (Signature) <i>[Signature]</i>	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Travis K.	Printed Name: Jacob Walter	Printed Name:	Printed Name:
	Company: Mott MacDonald	Company: AR, LLC	Company:	Company:
	Date & Time: 11/15/22 14:48	Date & Time: 11/15/22 1448	Date & Time:	Date & Time:

Limits of Liability: ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.



Mott MacDonald
1601 5th Avenue Suite 800
Seattle WA, 98101

Project: Scougal Rubber
Project Number: 518300048-001
Project Manager: Travis Klaas

Reported:
21-Nov-2022 16:04

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-12	22K0302-01	Water	15-Nov-2022 12:30	15-Nov-2022 14:48
MW-13	22K0302-02	Water	15-Nov-2022 12:48	15-Nov-2022 14:48
MW-14	22K0302-03	Water	15-Nov-2022 14:10	15-Nov-2022 14:48
MW-17	22K0302-04	Water	15-Nov-2022 14:15	15-Nov-2022 14:48
Trip Blanks	22K0302-05	Water	15-Nov-2022 00:00	15-Nov-2022 14:48



Mott MacDonald
1601 5th Avenue Suite 800
Seattle WA, 98101

Project: Scougal Rubber
Project Number: 518300048-001
Project Manager: Travis Klaas

Reported:
21-Nov-2022 16:04

Work Order Case Narrative

Volatiles - EPA Method SW8260D

The sample(s) were analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The blank spike and blank spike duplicate (BS/LCS and BSD/LCSD) spike recoveries and relative percent difference (RPD) were within control limits.

The matrix spike/matrix spike duplicate (MS/MSD) spike recoveries and relative percent difference (RPD) were within advisory control limits.



Cooler Receipt Form

ARI Client: Mott MacDonald

Project Name: Slougal Rubber

COC No(s): _____ (NA)

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 22100302

Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler? YES NO

Were custody papers included with the cooler? YES NO

Were custody papers properly filled out (ink, signed, etc.) YES NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1448 4.8

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: JC09708

Cooler Accepted by: JSS Date: 11/15/22 Time: 1448

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler? YES NO

What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: _____

Was sufficient ice used (if appropriate)? NA YES NO

How were bottles sealed in plastic bags? Individually Grouped Not

Did all bottles arrive in good condition (unbroken)? YES NO

Were all bottle labels complete and legible? YES NO

Did the number of containers listed on COC match with the number of containers received? YES NO

Did all bottle labels and tags agree with custody papers? YES NO

Were all bottles used correct for the requested analyses? YES NO

Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ... NA YES NO

Were all VOC vials free of air bubbles? NA YES NO

Was sufficient amount of sample sent in each bottle? PIG YES NO

Date VOC Trip Blank was made at ARI: NA 11/03

Were the sample(s) split by ARI? NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: PIB & JSS Date: 11/15/22 Time: 16:21 Labels checked by: _____

**** Notify Project Manager of discrepancies or concerns ****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: _____ Date: _____



Mott MacDonald
1601 5th Avenue Suite 800
Seattle WA, 98101

Project: Scougal Rubber
Project Number: 518300048-001
Project Manager: Travis Klaas

Reported:
21-Nov-2022 16:04

MW-12
22K0302-01 (Water)

Volatile Organic Compounds

Method: EPA 8260D

Sampled: 11/15/2022 12:30

Instrument: NT2 Analyst: LH

Analyzed: 11/17/2022 11:03

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: EPA 5030C (Purge and Trap)

Extract ID: 22K0302-01 A

Preparation Batch: BKK0499

Sample Size: 10 mL

Prepared: 11/17/2022

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Vinyl Chloride	75-01-4	1	0.08	0.20	0.79	ug/L	
cis-1,2-Dichloroethene	156-59-2	1	0.08	0.20	0.89	ug/L	
Trichloroethene	79-01-6	1	0.07	0.20	ND	ug/L	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>				<i>80-129 %</i>	<i>115</i>	<i>%</i>	
<i>Surrogate: Toluene-d8</i>				<i>80-120 %</i>	<i>95.8</i>	<i>%</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>				<i>80-120 %</i>	<i>89.5</i>	<i>%</i>	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>				<i>80-120 %</i>	<i>99.8</i>	<i>%</i>	



Mott MacDonald
1601 5th Avenue Suite 800
Seattle WA, 98101

Project: Scougal Rubber
Project Number: 518300048-001
Project Manager: Travis Klaas

Reported:
21-Nov-2022 16:04

MW-13
22K0302-02 (Water)

Volatile Organic Compounds

Method: EPA 8260D

Sampled: 11/15/2022 12:48

Instrument: NT2 Analyst: LH

Analyzed: 11/17/2022 11:23

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: EPA 5030C (Purge and Trap)

Extract ID: 22K0302-02 A

Preparation Batch: BKK0499

Sample Size: 10 mL

Prepared: 11/17/2022

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Vinyl Chloride	75-01-4	1	0.08	0.20	6.84	ug/L	
cis-1,2-Dichloroethene	156-59-2	1	0.08	0.20	10.9	ug/L	
Trichloroethene	79-01-6	1	0.07	0.20	4.76	ug/L	
<i>Surrogate: 1,2-Dichloroethane-d4</i>				<i>80-129 %</i>	<i>112</i>	<i>%</i>	
<i>Surrogate: Toluene-d8</i>				<i>80-120 %</i>	<i>93.1</i>	<i>%</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>				<i>80-120 %</i>	<i>91.4</i>	<i>%</i>	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>				<i>80-120 %</i>	<i>101</i>	<i>%</i>	



Mott MacDonald
1601 5th Avenue Suite 800
Seattle WA, 98101

Project: Scougal Rubber
Project Number: 518300048-001
Project Manager: Travis Klaas

Reported:
21-Nov-2022 16:04

MW-14
22K0302-03 (Water)

Volatile Organic Compounds

Method: EPA 8260D

Sampled: 11/15/2022 14:10

Instrument: NT2 Analyst: LH

Analyzed: 11/17/2022 11:43

Analysis by: Analytical Resources, LLC

Sample Preparation:

Preparation Method: EPA 5030C (Purge and Trap)

Extract ID: 22K0302-03 A

Preparation Batch: BKK0499

Sample Size: 10 mL

Prepared: 11/17/2022

Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Vinyl Chloride	75-01-4	1	0.08	0.20	1.95	ug/L	
cis-1,2-Dichloroethene	156-59-2	1	0.08	0.20	1.50	ug/L	
Trichloroethene	79-01-6	1	0.07	0.20	24.1	ug/L	
<i>Surrogate: 1,2-Dichloroethane-d4</i>				80-129 %	117	%	
<i>Surrogate: Toluene-d8</i>				80-120 %	91.2	%	
<i>Surrogate: 4-Bromofluorobenzene</i>				80-120 %	93.3	%	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>				80-120 %	99.7	%	



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Project: Scougal Rubber
Project Number: 518300048-001
Project Manager: Travis Klaas

Reported:
21-Nov-2022 16:04

MW-17
22K0302-04 (Water)

Volatile Organic Compounds

Method: EPA 8260D

Sampled: 11/15/2022 14:15

Instrument: NT2 Analyst: LH

Analyzed: 11/17/2022 12:04

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap)
Preparation Batch: BKK0499
Prepared: 11/17/2022

Sample Size: 10 mL
Final Volume: 10 mL

Extract ID: 22K0302-04 A

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Vinyl Chloride	75-01-4	1	0.08	0.20	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.08	0.20	0.34	ug/L	
Trichloroethene	79-01-6	1	0.07	0.20	16.4	ug/L	
<i>Surrogate: 1,2-Dichloroethane-d4</i>				80-129 %	119	%	
<i>Surrogate: Toluene-d8</i>				80-120 %	91.5	%	
<i>Surrogate: 4-Bromofluorobenzene</i>				80-120 %	87.9	%	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>				80-120 %	104	%	



Mott MacDonald 1601 5th Avenue Suite 800 Seattle WA, 98101	Project: Scougal Rubber Project Number: 518300048-001 Project Manager: Travis Klaas	Reported: 21-Nov-2022 16:04
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Trip Blanks
22K0302-05 (Water)

Volatile Organic Compounds

Method: EPA 8260D Sampled: 11/15/2022 00:00
Instrument: NT2 Analyst: LH Analyzed: 11/17/2022 10:42

Analysis by: Analytical Resources, LLC

Sample Preparation: Preparation Method: EPA 5030C (Purge and Trap) Extract ID: 22K0302-05 A
Preparation Batch: BKK0499 Sample Size: 10 mL
Prepared: 11/17/2022 Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Vinyl Chloride	75-01-4	1	0.08	0.20	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.08	0.20	ND	ug/L	U
Trichloroethene	79-01-6	1	0.07	0.20	ND	ug/L	U
<i>Surrogate: 1,2-Dichloroethane-d4</i>				<i>80-129 %</i>	<i>110</i>	<i>%</i>	
<i>Surrogate: Toluene-d8</i>				<i>80-120 %</i>	<i>98.5</i>	<i>%</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>				<i>80-120 %</i>	<i>93.9</i>	<i>%</i>	
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>				<i>80-120 %</i>	<i>103</i>	<i>%</i>	



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Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - Quality Control

Batch BKK0499 - EPA 8260D

Instrument: NT2 Analyst: LH

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BKK0499-BLK1)						Prepared: 17-Nov-2022 Analyzed: 17-Nov-2022 09:15					
Vinyl Chloride	ND	0.08	0.20	ug/L							U
cis-1,2-Dichloroethene	ND	0.08	0.20	ug/L							U
Trichloroethene	ND	0.07	0.20	ug/L							U
Surrogate: 1,2-Dichloroethane-d4	5.26			ug/L	5.00		105	80-129			
Surrogate: Toluene-d8	4.76			ug/L	5.00		95.1	80-120			
Surrogate: 4-Bromofluorobenzene	4.53			ug/L	5.00		90.6	80-120			
Surrogate: 1,2-Dichlorobenzene-d4	5.02			ug/L	5.00		100	80-120			
LCS (BKK0499-BS1)						Prepared: 17-Nov-2022 Analyzed: 17-Nov-2022 07:12					
Vinyl Chloride	8.73	0.08	0.20	ug/L	10.0		87.3	66-133			
cis-1,2-Dichloroethene	9.76	0.08	0.20	ug/L	10.0		97.6	80-121			
Trichloroethene	10.1	0.07	0.20	ug/L	10.0		101	80-120			
Surrogate: 1,2-Dichloroethane-d4	5.18			ug/L	5.00		104	80-129			
Surrogate: Toluene-d8	4.83			ug/L	5.00		96.5	80-120			
Surrogate: 4-Bromofluorobenzene	4.86			ug/L	5.00		97.2	80-120			
Surrogate: 1,2-Dichlorobenzene-d4	5.07			ug/L	5.00		101	80-120			
LCS Dup (BKK0499-BSD1)						Prepared: 17-Nov-2022 Analyzed: 17-Nov-2022 08:34					
Vinyl Chloride	9.51	0.08	0.20	ug/L	10.0		95.1	66-133	8.57	30	
cis-1,2-Dichloroethene	10.5	0.08	0.20	ug/L	10.0		105	80-121	7.30	30	
Trichloroethene	10.6	0.07	0.20	ug/L	10.0		106	80-120	4.14	30	
Surrogate: 1,2-Dichloroethane-d4	4.94			ug/L	5.00		98.9	80-129			
Surrogate: Toluene-d8	4.94			ug/L	5.00		98.7	80-120			
Surrogate: 4-Bromofluorobenzene	4.77			ug/L	5.00		95.4	80-120			
Surrogate: 1,2-Dichlorobenzene-d4	5.01			ug/L	5.00		100	80-120			
Matrix Spike (BKK0499-MS1)						Source: 22K0302-01 Prepared: 17-Nov-2022 Analyzed: 17-Nov-2022 16:33					
Vinyl Chloride	10.1	0.08	0.20	ug/L	10.0	0.79	92.8	66-133			
cis-1,2-Dichloroethene	11.8	0.08	0.20	ug/L	10.0	0.89	109	80-121			
Trichloroethene	10.9	0.07	0.20	ug/L	10.0	ND	109	80-120			
Surrogate: 1,2-Dichloroethane-d4	5.66			ug/L	5.00	5.74	113	80-129			
Surrogate: Toluene-d8	4.97			ug/L	5.00	4.79	99.3	80-120			
Surrogate: 4-Bromofluorobenzene	4.72			ug/L	5.00	4.47	94.4	80-120			
Surrogate: 1,2-Dichlorobenzene-d4	5.03			ug/L	5.00	4.99	101	80-120			



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Analysis by: Analytical Resources, LLC

Volatile Organic Compounds - Quality Control

Batch BKK0499 - EPA 8260D

Instrument: NT2 Analyst: LH

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Matrix Spike Dup (BKK0499-MSD1)	Source: 22K0302-01			Prepared: 17-Nov-2022 Analyzed: 17-Nov-2022 17:04							
Vinyl Chloride	10.3	0.08	0.20	ug/L	10.0	0.79	95.5	66-133	2.69	30	
cis-1,2-Dichloroethene	11.4	0.08	0.20	ug/L	10.0	0.89	105	80-121	3.54	30	
Trichloroethene	10.6	0.07	0.20	ug/L	10.0	ND	106	80-120	2.53	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	5.44			ug/L	5.00	5.74	109	80-129			
<i>Surrogate: Toluene-d8</i>	4.91			ug/L	5.00	4.79	98.3	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	4.99			ug/L	5.00	4.47	99.8	80-120			
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	4.87			ug/L	5.00	4.99	97.3	80-120			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.



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Certified Analyses included in this Report

Analyte	Certifications
EPA 8260D in Water	
Chloromethane	DoD-ELAP,ADEC,NELAP,WADOE
Vinyl Chloride	DoD-ELAP,ADEC,NELAP,WADOE
Bromomethane	DoD-ELAP,ADEC,NELAP,WADOE
Chloroethane	DoD-ELAP,ADEC,NELAP,WADOE
Trichlorofluoromethane	DoD-ELAP,ADEC,NELAP,WADOE
Acrolein	DoD-ELAP,NELAP,WADOE
1,1,2-Trichloro-1,2,2-Trifluoroethane	DoD-ELAP,ADEC,NELAP,WADOE
Acetone	DoD-ELAP,ADEC,NELAP,WADOE
1,1-Dichloroethene	DoD-ELAP,ADEC,NELAP,WADOE
Iodomethane	DoD-ELAP,NELAP,WADOE
Methylene Chloride	DoD-ELAP,ADEC,NELAP,WADOE
Acrylonitrile	DoD-ELAP,NELAP,WADOE
Carbon Disulfide	DoD-ELAP,NELAP,WADOE
trans-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,WADOE
Vinyl Acetate	DoD-ELAP,NELAP,WADOE
1,1-Dichloroethane	DoD-ELAP,ADEC,NELAP,WADOE
2-Butanone	DoD-ELAP,NELAP,WADOE
2,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,WADOE
cis-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,WADOE
Chloroform	DoD-ELAP,ADEC,NELAP,WADOE
Bromochloromethane	DoD-ELAP,ADEC,NELAP,WADOE
1,1,1-Trichloroethane	DoD-ELAP,ADEC,NELAP,WADOE
1,1-Dichloropropene	DoD-ELAP,ADEC,NELAP,WADOE
Carbon tetrachloride	DoD-ELAP,ADEC,NELAP,WADOE
1,2-Dichloroethane	DoD-ELAP,ADEC,NELAP,WADOE
Benzene	DoD-ELAP,ADEC,NELAP,WADOE
Trichloroethene	DoD-ELAP,ADEC,NELAP,WADOE
1,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,WADOE
Bromodichloromethane	DoD-ELAP,ADEC,NELAP,WADOE
Dibromomethane	DoD-ELAP,ADEC,NELAP,WADOE
2-Chloroethyl vinyl ether	DoD-ELAP,ADEC,NELAP,WADOE
4-Methyl-2-Pentanone	DoD-ELAP,NELAP,WADOE
cis-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,WADOE
Toluene	DoD-ELAP,ADEC,NELAP,WADOE
trans-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,WADOE



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2-Hexanone	DoD-ELAP,NELAP,WADOE
1,1,2-Trichloroethane	DoD-ELAP,ADEC,NELAP,WADOE
1,3-Dichloropropane	DoD-ELAP,ADEC,NELAP,WADOE
Tetrachloroethene	DoD-ELAP,ADEC,NELAP,WADOE
Dibromochloromethane	DoD-ELAP,ADEC,NELAP,WADOE
1,2-Dibromoethane	DoD-ELAP,NELAP,WADOE
Chlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
Ethylbenzene	DoD-ELAP,ADEC,NELAP,WADOE
1,1,1,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,WADOE
m,p-Xylene	DoD-ELAP,ADEC,NELAP,WADOE
o-Xylene	DoD-ELAP,ADEC,NELAP,WADOE
Styrene	DoD-ELAP,NELAP,WADOE
Bromoform	DoD-ELAP,NELAP,WADOE
1,1,2,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,WADOE
1,2,3-Trichloropropane	DoD-ELAP,ADEC,NELAP,WADOE
trans-1,4-Dichloro 2-Butene	DoD-ELAP,ADEC,NELAP,WADOE
n-Propylbenzene	DoD-ELAP,NELAP,WADOE
Bromobenzene	DoD-ELAP,NELAP,WADOE
Isopropyl Benzene	DoD-ELAP,NELAP,WADOE
2-Chlorotoluene	DoD-ELAP,ADEC,NELAP,WADOE
4-Chlorotoluene	DoD-ELAP,ADEC,NELAP,WADOE
t-Butylbenzene	DoD-ELAP,NELAP,WADOE
1,3,5-Trimethylbenzene	DoD-ELAP,NELAP,WADOE
1,2,4-Trimethylbenzene	DoD-ELAP,NELAP,WADOE
s-Butylbenzene	DoD-ELAP,NELAP,WADOE
4-Isopropyl Toluene	DoD-ELAP,NELAP,WADOE
1,3-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
1,4-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
n-Butylbenzene	DoD-ELAP,NELAP,WADOE
1,2-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
1,2-Dibromo-3-chloropropane	DoD-ELAP,ADEC,NELAP,WADOE
1,2,4-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
Hexachloro-1,3-Butadiene	DoD-ELAP,ADEC,NELAP,WADOE
Naphthalene	DoD-ELAP,ADEC,NELAP,WADOE
1,2,3-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,WADOE
Dichlorodifluoromethane	DoD-ELAP,ADEC,NELAP,WADOE
Methyl tert-butyl Ether	DoD-ELAP,ADEC,NELAP,WADOE
n-Hexane	WADOE
2-Pentanone	WADOE



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Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	03/28/2023
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2023



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Notes and Definitions

- E The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
- J Estimated concentration value detected below the reporting limit.
- M Estimated value for a GC/MS analyte detected and confirmed by an analyst but with low spectral match parameters.
- U This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- [2C] Indicates this result was quantified on the second column on a dual column analysis.

